REMARKS/ARGUMENTS

Claims 1, 2, 4, 5, 8, 20 and 21 are pending in the present application. Claims 1, 8, 20 and 21 are amended. Support for the amendments may be found in the specification on page 4 line 19 to page 5 line 2, page 7 lines 12-26, page 13 line 22 to page 14 line 25 and page 15 lines 1-16. Reconsideration of the claims is respectfully requested.

I. 35 U.S.C. § 112, First Paragraph

The Examiner has objected to the specification under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. The Examiner states:

> Claims 20-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.
>
> 10. As to claim 20, Applicant points to pages 7 and 14 of the specification to provide support for the newly added claim. However, the material relied upon does not disclose two separate numerical representations. That is, there is not a numerical representation of the content of the requested document and a numerical representation of the content of the corresponding document. Rather, the cited portions of the specification disclose a single numerical percentage value.
>
> 11. As to claim 21, the claim is rejected for reasons similar to claim 20 above.
>
> As discussed, the cited portions of the specification support only one numerical value. In addition to the second value of claim 20, Applicant appears to now be adding two more numerical values to the claimed embodiment. If two numerical values is not supported by the specification, four numerical values cannot be supported either.

Office Action of October 23, 2008 pp. 3-5.

Claim 20 is as follows:

> A computer implemented method as in claim 1, wherein the retrieved fingerprint information comprises a numerical representation of the content portion and the metadata_of the requested document, and the current fingerprint information comprises a numerical representation of the content portion and the metadata_of the corresponding document, wherein the fingerprint information comprises property information including one or more of a unique identifier for content rather than a uniform resource locator, a property indicating a guaranteed same identifier generated for same content; a property for indicating comparable with another identifier to find a degree of difference, a property indicating a small change in content results in small change in the unique identifier, a property indicating a large change in content results in a small change in the unique identifier, a property indicating a degree of difference between the unique identifiers represents a degree of difference in the content; a property indicating the content cannot be derived from the unique identifier, a property indicating the fingerprint was generated from main content and not static headers and footers, and a property indicating storage requirements less than average content.

With regard to claim 20, the Examiner asserts that the material relied upon does not disclose two separate numerical representations. The material relied upon discloses a numerical representation, in the form of an identifier, a fingerprint, of the content for each document. In particular, page 14 lines 19-21 specifically states the following:

> The fingerprint is a numerical representation of the content of the document and may be considered a multidimensional vector in content space.

A fingerprint is provided for each document, therefore each of a requested document has a fingerprint and a corresponding document has a fingerprint. Whether the document is a corresponding document or a requested document or a retrieved document does not matter, there is only one fingerprint per document. Accordingly, each document has a single form of identification of a numerical representation in the form of a fingerprint. A document therefore does not have two fingerprints, as asserted by the Examiner. The number of individual numerical representations therefore is dependent upon the number of documents being used, wherein each document has an associated numerical representation. Therefore, the objection to claims 20 and 21 in view of the specification under 35 U.S.C. § 112, first paragraph has been overcome.

With regard to claim 21, the Examiner states:

> 12. The following is a quotation of the second paragraph of 35 U.S.C. 112: The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
>
> 13. Claim 21 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
>
> 14. As to claim 21, the phrase "the retrieved document" lacks antecedent basis.

Office Action of October 23, 2008 page 5.

Claim 21 is as follows:

> A computer implemented method as in claim 20, wherein the numerical representation of the content of the requested document and the numerical representation of the content of the corresponding document each comprises a multidimensional vector in content space.

The retrieved document, of previous claim 21, has now been amended to read "requested document" according to support provided in claims 20 and 1 from which claim 21 depends. Therefore, the objection to the claim under 35 U.S.C. § 112, second paragraph has been overcome.

II. 35 U.S.C. § 102, Anticipation

The Examiner has rejected claims 1-2, 4-5, 8 and 20-21 under 35 U.S.C. § 102 as being anticipated by Smith et al. (U.S. 6,578,078 B1) (hereinafter referred to as "*Smith*"). The Examiner states:

> As to claim 1, Smith discloses a computer implemented method for processing a document request (Col. 11, ln. 57-63), the computer implemented method comprising:

> requesting a document (Col. 11, ln. 57-63), wherein the request contains a URL (uniform resource locator) address for locating the document (Col. 11, ln. 57-63);
>
> responsive to the URL address not having the requested document (Col. 13, ln. 32-40; Col. 15, ln. 30-34 and 38-45),
>
> retrieving fingerprint information from a fingerprint information database to form retrieved fingerprint information (Col. 13, ln. 32-40; Col. 14, ln. 8-17; Col. 15, ln. 63 - Col. 16, ln. 4),
>
> wherein the retrieved fingerprint information comprises a representation of a content of the requested document (Col. 16, ln. 5-16);
>
> locating current fingerprint information in the fingerprint database which matches the retrieved fingerprint information (Abstract, ln. 1-9; Col. 13, ln. 32-40; Col. 15, ln. 38-45; Col. 16, ln. 5-16),
>
> wherein the current fingerprint information comprises a representation of a content of a corresponding document which corresponds to the requested document and has a corresponding URL address (Col. 16, ln. 5-16; Col. 17, ln. 17-48); and
>
> returning the corresponding document from the corresponding URL address in response to the request (Fig. 4, especially items 52,54, and 60; Abstract, ln. 1-9; Col. 13, ln. 32-40; Col. 15, ln. 38-45).

Office Action dated October 23, 2008, pp. 6-7.

A prior art reference anticipates the claimed invention under 35 U.S.C. § 102 only if every element of a claimed invention is identically shown in that single reference, arranged as they are in the claims. *In re Bond*, 910 F.2d 831, 832, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990). All limitations of the claimed invention must be considered when determining patentability. *In re Lowry*, 32 F.3d 1579, 1582, 32 U.S.P.Q.2d 1031, 1034 (Fed. Cir. 1994). Anticipation focuses on whether a claim reads on the product or process a prior art reference discloses, not on what the reference broadly teaches. *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 218 U.S.P.Q. 781 (Fed. Cir. 1983). In this case, each and every feature of the presently claimed invention is not identically shown in the cited reference, arranged as they are in the claims.

Claim 1 is a follows:

> A computer implemented method for processing a document request, the computer implemented method comprising:
>
> requesting a document, wherein the request contains a uniform resource locator address for locating the document;
>
> responsive to the uniform resource locator address not having the requested document, retrieving fingerprint information from a fingerprint

> database maintained on a computer, to form retrieved fingerprint information, wherein the retrieved fingerprint information comprises a numerical representation in multidimensional content space of a content portion and a metadata of the requested document, which is distinct from categorizing the document in a defined index structure, to form an identification for the document from the content portion;
>
> locating current fingerprint information in the fingerprint database which matches the retrieved fingerprint information, wherein the current fingerprint information comprises a numerical representation in multidimensional content space of a content portion and a metadata of a corresponding document which corresponds to the requested document and has a corresponding uniform resource locator address; and
>
> returning the corresponding document from the corresponding uniform resource locator address in response to the request.

Smith does not anticipate claim 1 because *Smith* does not teach each and every feature as they are arranged in the claims. In particular, *Smith* does not teach or suggest the feature of "responsive to the uniform resource locator address not having the requested document, retrieving fingerprint information from a fingerprint database maintained on a computer, to form retrieved fingerprint information, wherein the retrieved fingerprint information comprises a numerical representation in multidimensional content space of a content portion and a metadata of the requested document, which is distinct from categorizing the document in a defined index structure, to form an identification for the document from the content portion", "locating current fingerprint information in the fingerprint database which matches the retrieved fingerprint information, wherein the current fingerprint information comprises a numerical representation in multidimensional content space of a content portion and a metadata of a corresponding document which corresponds to the requested document and has a corresponding uniform resource locator address," and "returning the corresponding document from the corresponding uniform resource locator address in response to the request."

Smith is directed to a method for preserving referential integrity within web sites. In particular, *Smith* teaches redirection of requests by creating and maintaining indirection table entries for resources requested by clients as in:

> When the server receives a message from a client requesting a resource via its URL reference, the server looks up the location of the resource in the indirection table, and then forwards a copy of the resource to the client. A

> new indirection table entry is added as each new page is created. As documents are moved or deleted, their indirection table entries must be updated.

Smith, col. 11 lines 57-63.

With regard to the feature of "responsive to the uniform resource locator address not having the requested document, retrieving fingerprint information from a fingerprint database maintained on a computer, to form retrieved fingerprint information, wherein the retrieved fingerprint information comprises a numerical representation in multidimensional content space of a content portion and a metadata of the requested document, which is distinct from categorizing the document in a defined index structure, to form an identification for the document from the content portion," *Smith* teaches looking up the URL reference in an indirection table to locate the requested document and returning the document to the client. The indirection table for the document is updated to reflect when the document is moved or deleted. Therefore, there are indirection entries specific to a document reflecting current location after a move or the deletion of the document.

Smith teaches away from the claim feature because *Smith* uses the URL reference that provides a location indicator only. The locality reference of the URL as taught by Smith fails to provide information regarding the context of the document content. *Smith* fails to teach use of the content of the document as an identifier in the form of fingerprint information comprises a numerical representation in multidimensional content space of a content portion and a metadata of the requested document, which is distinct from categorizing the document in a defined index structure, to form an identification for the document from the content portion, as in the claimed feature, to identify and distinguish one document from another.

In contrast, the claimed feature uses a fingerprint generated from and representative of the content of the document. The fingerprint as claimed is not a URL for the document pointing to a new location. The fingerprint is fingerprint information that comprises a numerical representation in multidimensional content space generated from a content portion and a metadata of the requested document, to form identification for the document from the content portion which is distinct from categorizing the document in a defined index structure.

Smith teaches a reference to the document location rather than a numerical representation of the document content. *Smith* fails to teach an abstraction of the document content into a single numerical identifier as in the claimed feature. The shorthand notation of the document content in the form of the numerical representation in the claimed feature is neither taught nor suggested by *Smith*. Therefore, *Smith* does not teach or suggest the claimed feature.

Further, *Smith* does not teach the additional feature of the numerical representation being "distinct from categorizing the document in a defined index structure." *Smith* teaches use of only the URL for document retrieval, as in the previously cited portion. *Smith* teaches creation and use of a separate entry for a deleted resource which is initially not found by the request as at:

> Moved pages can generally be redirected, while deleted pages have no page to which automatic redirection is applicable; however, the author may create a redirection reference for a deleted page and request it to be implemented by the server. If the page can be redirected, a redirection page is created in a block 20. The redirection page contains a URL stub file that automatically redirects the browser to the new URL, without requiring the user to perform any steps.

Smith, col. 13 lines 32-40.

> the URL has been redirected, then the web site server sends the referring server a message that includes the new URL for the link so that the hyperlinks on the referring server may be updated in a block 56. The code for updating the hyperlinks on the referring server is contained in another RPE that resides on the referring server. Next, a decision block 58 queries to determine if the URL is stored (e.g., saved on a user's computer as a favorite or in a history list). If the URL is not stored, the page corresponding to the new (redirected) URL is displayed in a block 60.

Smith, col. 15 lines 30-34 and 38-45.

Smith teaches the creation of a separate redirection reference for the previously deleted resource. The resource in *Smith* is not replaced. *Smith* only teaches a redirection reference that may be automatic or indicate to a client a link to the new location if the resource was not deleted. In contrast, the claimed feature locates a document based on the numerical representation of the content that is the fingerprint, to find the document or corresponding document having the same content as desired. Therefore, *Smith* fails to teach the feature as claimed.

With regard to the feature of "locating current fingerprint information in the fingerprint database which matches the retrieved fingerprint information, wherein the current fingerprint information comprises a numerical representation of a content portion of a corresponding document which corresponds to the requested document and has a corresponding uniform resource locator address," *Smith* is asserted to teach claimed feature in the following portions:

> In a decision block 22, a decision is made to whether the page is to be deleted or moved. If the page is to be deleted, it is deleted as noted in a block 24, and the server database is updated so that the previous URL for the link is marked to indicate the page has been deleted in a block 26. If the page is to be moved, the content of the page is moved to a new location in a block 28. A corresponding change to indicate the page's new URL is made in the server database in block 26. The structure of the server database is described in detail below.

Smith, col. 14 lines 8-17.

> As discussed above, the information concerning various page parameters, such as URL changes, is stored in a database. The structure of the preferred embodiment of the database is different from the structure typically associated with databases, because the content of the database is not stored in a single file, but rather combines files for each page and for the file hierarchy. Other conventional forms of databases could also be implemented to serve the database function.

Smith, col. 15 line 63-col. 16 line 4.

> Each web document has an associated contextual information file that is stored in a "_vti_cnf" subfolder that shares the same folder or subfolder as the document. For instance, in the foregoing example, there is a _vti_cnf subfolder stored within the same folder as main.htm and linked.htm. The contextual information file comprises a set of "meta-data" that include parameters relating to the resource, such as the last time the resource was modified, the author's name, the size of the resource, etc., and back link information so that hyperlinks in referring documents can be updated to map to the new location for a moved document.

Smith, col. 16 lines 5-16.

> Although these files share the same name as those above, they are not written in HTML. Rather, these files contain a set of "meta-data" that is used by the RPE in performing its functions. The _vti_cnf/linked.htm file includes the following meta-data entries: 1. vti_encoding:SR.vertline.utf8-

> nl 2. vti_author:SR.vertline.mdsmith 3. vti_modifiedby:SR.vertline.mdsmith 4. vti_timecreated:TR.vertline.02 Feb 1999 20:22:53-0000 5. vti_timelastmodified:TR.vertline.02 Feb 1999 20:22:53-0000 6. vti_cacheddtm:TX.vertline.02 Feb 1999 20:22:53-0000 7. vti_filesize:IR.vertline.358 8. vti_cachedlinkinfo:VX.vertline. 9. vti_cachedsvcrellinks:VX.vertline. 10. vti_cachedtitle:SR.vertline.Linked page 11. vti_title:SR.vertline.Linked page 12. vti_cachedbodystyle:SR.vertline.<BODY> 13. vti_cachedhasbots:BR.vertline.false 14. vti_cachedhastheme: BR.vertline.false 15. vti_cachedhasborder: BR.vertline.false 16. vti_metatags:VR.vertline.HTTP-EQUIV=Content-Language en-us HTTP- 17. EQUIV=Content-Type text/html;.backslash..backslash.charset=windows-1252 GENERATOR 18. Microsoft.backslash..backslash.FrontPage.backslash..backslash.4.0 ProgId FrontPage.Editor.Document 19. vti_progid: SR.vertline.FrontPage.Editor.Document 20. vti_generator:SR.vertline.Microsoft FrontPage 4.0 21. vti_extenderversion:SR.vertline.4.0.2.2505 22. vti_backlinkinfo:VX.vertline.main.htm

Smith, col. 17 lines 17-48.

> The integrity of uniform resource locator (URL) references within web sites are maintained when changes occur in the locations where resources referenced by URLs are stored. A Referential Preservation Engine (RPE) maintains a database in which the location of web site documents and reference information are stored and updates various URL hyperlink references contained in the web pages on the site so that users can locate documents that have been moved to new storage locations.

Smith, Abstract lines 1-9.

Smith fails to teach or suggest the claimed feature because *Smith* teaches locating a document according to a URL reference only. Smith does not teach or suggest use of document content information to generate an identifier for the document. *Smith* teaches finding a URL in an indirection table or a redirection table to indicate the new location of the requested document. *Smith* therefore only teaches following of URL references. *Smith* also teaches use of a set of "meta-data" that include parameters relating to the resource, such as the last time the resource was modified, the author's name, the size of the resource, etc., and back link information so that hyperlinks in referring documents can be updated to map to the new location for a moved document. The descriptive information related to the document as taught by Smith is not used to generate a numerical representation of the document content as claimed.

In contrast, the claimed feature locates a corresponding document by way of fingerprint matching. The fingerprint is a numerical representation of the document content. *Smith* teaches use of contextual attributes that describe the document physical characteristics. In contrast, the feature uses a generated numerical representation to represent, in a shorthand or compact form of the fingerprint identifier, the content of the document. *Smith* does not teach a numerical representation as in the claimed feature. *Smith* teaches use of a plurality of individual physical attributes of the document used for further link maintenance rather than content information abstracted as a numerical representation of the document of the claimed feature.

The Examiner further asserts that *Smith* teaches an attribute that corresponds to the fingerprint of the claimed feature. However, there is no single attribute taught by *Smith* that defines the content of the document as in the claimed feature. Each attribute of *Smith* identifies a different physical characteristic of the file rather than the content as currently claimed. *Smith* neither teaches nor suggests a combination of attributes into a single identifier. Further *Smith* does not teach or suggest analysis of the document content to produce a single identifier as in the claimed fingerprint. Therefore, *Smith* fails to teach the claimed feature.

With regard to the feature of "returning the corresponding document from the corresponding uniform resource locator address in response to the request," *Smith* teaches returning a document based on the URL entry in the redirection table associated with the requested URL. *Smith* therefore teaches document location based only on URL reference. In contrast, the claimed feature returns a corresponding document. The corresponding document differs from the teaching of *Smith* in that the corresponding document is determined by the content of the document.

Smith does not teach or suggest determining the corresponding document based on the content of the document because *Smith* teaches using URL references only. Smith teaches matching a URL to locate a document. In contrast, the claimed feature uses the numerical representation to determine a correspondence with the requested document and locate a corresponding document based on the identification provided by the fingerprint information. Therefore, *Smith* does not teach the claimed features.

Accordingly, since *Smith* fails to teach each and every feature of the claim as required under the standard of *In re Bond, Smith* fails to anticipate claim 1. Therefore, the claimed features of claim 1 are distinguished from the teaching of *Smith.* Since claims 2, 4, 5, 8, 20 and 21 depend from claim 1, the same distinctions between *Smith* and the claimed invention in claim 1 apply equally well for these claims.

Further, claim 20 includes property information that is neither taught nor suggested in the disclosure of *Smith.* The features of claim 20 therefore further distinguish the claimed features from the teaching of *Smith.* Accordingly, the rejection of claims 1, 2, 4, 5, 8, 20 and 21 under 35 U.S.C. § 102 has been overcome.

III. Conclusion

The subject application is patentable over the cited references. Therefore, the subject application should now be in condition for allowance. Applicants invite the Examiner to call the undersigned at the below-listed telephone number if, in the opinion of the Examiner, a telephone conference would expedite or aid the prosecution of this application.

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Respectfully submitted,

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